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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,776	04/13/2006	Masahiro Yoshioka	0760-0353PUS1	3792

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EXAMINER
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PAK, HANNAH J

ART UNIT	PAPER NUMBER
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4171

NOTIFICATION DATE	DELIVERY MODE
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06/12/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,776	<b>Applicant(s)</b> YOSHIOKA ET AL.	
	<b>Examiner</b> Hannah Pak	<b>Art Unit</b> 4171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/20/06, 07/13/06, 04/13/06</u> .                            | 6) <input type="checkbox"/> Other: ____.                          |

**DETAILED ACTION*****Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-4, 8-16, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukamoto et al. (JP 2000-143985) in view of Bertram (US 4,162,244).**

The applicants claim a black composition made of titanium nitride oxide, a resin and a solvent having x-ray intensity ratios  $R_1$  and  $R_2$ , which are represented by the equations below:

$$R_1 = I_3 / \{I_3 + 1.8(I_1 + 1.8I_2)\} \text{ with } R_1 > 0.70;$$

$$R_2 = I_2 / I_1 \text{ with } 0.85 < R_2 < 1.80;$$

wherein  $I_1$ ,  $I_2$ , and  $I_3$  represents maximum diffraction intensity of the titanium nitride oxide at various angles of diffraction  $2\theta$ , all of which are determined

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by using CuK $\alpha$  line as the X-ray source. According to page 1 of specification, this black composition is said to be used for making, among other things, a coating material or color filters for crystal displays.

With respect to claims 1-3, 9, 11-12, and 19-20, Tsukamoto et al. disclose a black coating composition containing titanitic acid nitrides or titanium black (titanium nitride oxide), a solvent, and a resin, which is useful for making black matrices (Paragraphs 11 and 21). The black coating composition may also comprise various additives, including carbon black (Paragraph 9) and has the X-ray intensity ratio R having the formula below (Paragraphs 11-12):

$$R = I_3 / \{I_3 + 1.8 \times (I_1 + 1.8 \times I_2)\};$$

wherein R is 0.28 or more,  $I_1$  represents the maximum diffraction line intensity of the titanitic acid nitrides when the angle of diffraction 2 theta, determined by using a X line source CuK alpha rays, is 25-26 degrees,  $I_2$  represents the maximum diffraction line intensity of the titanitic acid nitrides when the angle of diffraction 2 theta is 27-28 degrees, and  $I_3$  represents the maximum diffraction intensity of the titanitic acid nitrides when the angle of diffraction 2 theta is 36-38 degrees. As is apparent from the above, R corresponds to the claimed  $R_1$  and embraces a value inclusive of the claimed  $R_1$  value.  $I_3$  is identical to the claimed  $I_3$ .  $I_1$  and  $I_2$  values, therefore, necessarily overlap with the claimed  $I_1$  and  $I_2$  values, i.e., the claimed  $R_2$  value, to arrive at the R value of 0.28 or more.

As to claims 4, 8, 10, 13, and 14-16, Tsukamoto et al. further teach employing polyimide resin or acrylic resin in the black coating composition (Paragraph 17). The black coating composition has the preferred weight black

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coating composition ratio of the titanitic acid nitride/polyimide resin is in the range of 90/10-40/60 (Paragraph 18) and the preferred optical density (OD value) of 3.0 or more per 1 micrometer of film pressure (Paragraph 14).

Moreover, as to claims 21 and 22, Tsukamoto et al. teach using a resin black matrix to obtain a light (color) for a liquid crystal display (Paragraphs 25-28).

Although Tsukamoto et al. do mention employing the solvent in the black coating composition, they do not mention its properties in the black coating composition as recited in claim 3. Tsukamoto et al. also do not mention the specific amounts or values of materials required by claims 1-4, 8-16, and 19-22.

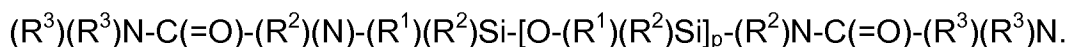
As to the properties of the solvent in the black coating composition, Tsukamoto et al. teach the same black composition and solvent made by the same process. Therefore, the black coating composition comprising the solvent taught by Tsukamoto et al. and the claimed product are identical or substantially identical in its structure, function, and property, such as those claimed (see MPEP § 2112.01).

Additionally, as indicated above, the x-ray intensity ratio  $R$ ,  $I_1$ - $I_3$ , the optical values, and the weight ratio disclosed by Tsukamoto et al. overlap with all the claimed values and ranges. Therefore, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the invention was made, since it has been held that choosing the overlapping portion, of the ranges taught by Tsukamoto et al., and the range claimed by the applicant, has been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 USPQ 549.

**Claims 5-7 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukamoto et al. (JP 2000-143985) in view of Bertram (US 4,162,244) as applied to claims 1-4, 8-16, and 19-22 above, and further in view of Hedaya et al. (US 4,208,492).**

The disclosure of Tsukamoto et al. is discussed above. They do not mention the specific siloxane compound as required by the claims.

However, Hedaya et al. disclose employing a siloxane polymer compounded with other fillers and additives useful for a wide variety of applications, including articles and among other things, which exhibits good elastomeric properties (such as low modulus good tensile strength and elongation, good resilience, thermal stability, solvent resistance) and has the formula (Col 1, lines 15-25, Col. 3, lines 5-10, and Col. 5, lines 45-51):



The above formula corresponds to the claimed formula from right to left, wherein p value of 0-4 corresponds to n,  $R^1$ - $R^2$  is the same as the claimed  $R^1$  and  $R^3$ - $R^6$ , representing alkyl groups (such as methyl or ethyl), and  $R^3$  corresponds to the claimed tetramethylene bonds, representing alkylene groups (Col. 3, line 40-Col. 4, line 40). The above formula also contains amide bond and an ester bond, which corresponds to the claimed  $R^2$  (Col. 5, lines 45-50).

Therefore, it would have been obvious to one of ordinary skill in the art to employ the siloxane polymer of Hedaya et al. compounded with other fillers and additives taught by Tsukamoto et al. to produce a wide variety of applications,

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such as articles and among other things, which exhibits good elastomeric properties, including low modulus good tensile strength and elongation, good resilience, thermal stability, solvent resistance.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hannah Pak whose telephone number is (571) 270-5456. The examiner can normally be reached on Monday - alternating Fridays (7:30 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art Unit 4171

Hannah Pak  
Examiner  
Art Unit 4171

/HP/



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